REMARKS

In regard to Examiner's objection to Figure 2, Applicants have incorporated the changes made to the specification in the Amendment After Final sent on September 20, 2004, which was not entered, into the instant Amendment.

Applicants respectfully request reconsideration of Examiner's rejection of claims 21 - 22 under 35 U.S.C. §102(b). Examiner has rejected these claims in view of the cited prior art reference of *Thomas et al.* (U.S. Patent No. 6,501,142). Applicants note that claim 21 is directed to a semiconductor sensor apparatus wherein the discharge electrodes protrude above the surrounding insulating layer in order to provide improved discharge ability and to reduce device failures caused by static discharge from objects being sensed. *Thomas* fails to teach or suggest the limitations of claim 21. More specifically, Figure 5 of the Thomas Reference, as cited by the Examiner, fails to disclose a plurality of discharge electrodes that extend above the uppermost insulating layer formed over the first 'sensing' capacitor electrodes. See, for example, Figure 5, which discloses the discharge electrodes 32 formed flush with the uppermost insulating layer 34 disposed over the 'sensing' capacitor electrodes.

In regard to claim 22, Applicants respectfully submit that the *Thomas* disclosure also fails to teach or suggest the limitations of this claim. More specifically, Examiner states in his last Office Action that "a passivation layer 34 is formed over the discharge electrodes 34 (insulation on a top surface of the discharge electrodes), as shown in Figure 5." Applicants submit that Figure 5 fails to teach or suggest the formation of an insulation layer over the

discharge electrodes 32, and further fails to teach or suggest wherein both a top surface of the discharge electrode 32 and the insulation film formed thereon are at a level higher than the level of the uppermost insulating layer 34 formed over the 'sensing' capacitor electrodes 10.

Applicants' invention, however, teaches the use of discharge electrodes 301/501 that protrude above the level of the upper-most insulating layer 3 disposed above the 'sensing' capacitor electrodes 2. Accordingly, the device exhibits improved discharge capability and improved sensitivity, due to the fact that the insulating layer over the 'sensing' capacitor electrodes need not be formed all the way to the top surface of discharge electrodes.

In light of the foregoing, Applicants respectfully request Examiner withdraw his 35 U.S.C. §102 rejection, and place claims 21 and 22 in condition for allowance.

Applicants respectfully request reconsideration of Examiner's rejection of claim 3 under 35 U.S.C. §103(a). As noted by the Examiner, Claim 3 is directed to the embodiment of the invention illustrated in Figure 3, wherein the ground electrodes protrude from the insulating surface in order to provide improved contact for the purpose of reducing any adverse affects of the static electricity. It is particularly important to maintain the upper portions of the discharge electrodes at a higher level than the upper most surface of the insulating film in order to provide improved electrical conductivity. This height difference contributes to controlling the thickness of the insulating film on the first electrodes, and the distance between the surface of the first electrode and the second electrode separately. A thin insulating film on the first electrode enables good sensing and the large distance between the

surface of the first electrode and the second electrode provides good protection from the adverse affects of static electricity.

Applicant notes that none of the cited references set forth by the Examiner provide any teaching or suggestion whatsoever regarding this advance in the art. More specifically, Applicant notes that the *Machida* reference (United States Patent No. 6,248,655) is merely directed to a fingerprint sensing unit wherein the top surfaces of the discharge electrodes are maintained at the same level as the insulating film. As a result, there remains the problem that there is inadequate electrical contact with the discharge electrodes, and therefore static electricity is also a problem. Furthermore, because the discharge electrodes and insulating films are flush, more insulating film is required to be formed over the sensing electrode than Applicant's invention, thereby causing reduced sensitivity and a reduction in device performance.

Examiner states in his last Office Action that 'one of ordinary skill in the art would have been motivated to make that change.' Essentially, the Examiner has taken 'official notice' that one of ordinary skill in the art would have made this change. Section 2144.03 of the MPEP states "It [is] not [] appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art." *In re Ahlert*, 424 F.2d at 1091. Furthermore, that section states that "It is never

appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based." *Zurko*, 258 F.3d at 1385. Applicant asserts that the prior art fails to support Examiner's position, but rather demonstrates that one of ordinary skill in the art *would not* have disposed discharge electrodes that protrude above the surrounding insulating layer. As required by MPEP §2144.03(c), Applicant respectfully requests Examiner assert valid evidence to support his conclusion.

In apparent recognition of the above deficiency, the Examiner has set forth a further rejection of Claim 3 based on the additional combination of *Machida* in light of the *Knapp* reference (United States Patent No. 5,325,442). As noted above, the *Machida* reference suffers from the significant deficiency that there is no teaching or suggestion regarding the protrusion of the discharge electrodes above the insulating surface. The *Knapp* fails to provide any additional teaching or suggestion which would result in Applicant's claimed invention as set forth in Claim 3.

More specifically, in reference to the subject matter described in *Knapp*, the conducting pads 54 of *Knapp* are not discharge electrodes as claimed by Examiner. Rather, the array of connecting pads 54 are utilized together with the electrodes 14 opposite the plates of capacitors 35 so that ridges of a fingerprint contact and ground particular pads 54 of the array, whereby the capacitance of the capacitors 35 at the sense elements is determined by the opposed electrodes 14 and 54. The array of pads 54 are not themselves individually

grounded, and **do not** provide the function of reducing static electricity through discharging undesired static electricity.

Accordingly, at best, the combination of *Machida* in view of *Knapp* would result in a structure having protruding sensing electrodes or a finger print sensor comprising ground electrodes that are flush with the surrounding insulating surface. A proper obviousness rejection under 35 U.S.C. §103 requires that there be some teaching or suggestion in the art to make the claimed structure. As demonstrated above, the combination asserted by the Examiner will not result in Applicant's claimed subject matter. Accordingly, the rejection is deficient and should be withdrawn.

The Examiner has set forth a further rejection of Claim 3 based on the additional combination of *Machida* in light of the *Thomas* reference (United States Patent No. 6,501,142). As noted above, the *Machida* reference suffers from the significant deficiency that there is no teaching or suggestion regarding the protrusion of the discharge electrodes above the insulating surface. Furthermore, as noted above in regard to the rejection of Claims 21 and 22, the *Thomas* reference fails to provide any additional teaching or suggestion which would result in Applicant's claimed invention as set forth in Claim 3.

Accordingly, at best, the combination of *Machida* in view of *Thomas* would result in a finger print sensor comprising ground electrodes that are flush with the surrounding insulating surface. A proper obviousness rejection under 35 U.S.C. §103 requires that there be some teaching or suggestion in the art to make the claimed structure. As demonstrated

above, the combination asserted by the Examiner will not result in Applicant's claimed subject matter. Accordingly, the rejection is deficient and should be withdrawn.

Examiner's remaining references cited in previous Office Actions but not relied upon here, considered either alone or in combination, also fail to teach applicant's currently claimed invention. In light of the foregoing, Applicants respectfully submit that all claims now stand in condition for allowance.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-1794.

Respectfully submitted,

Date: 2/15/05

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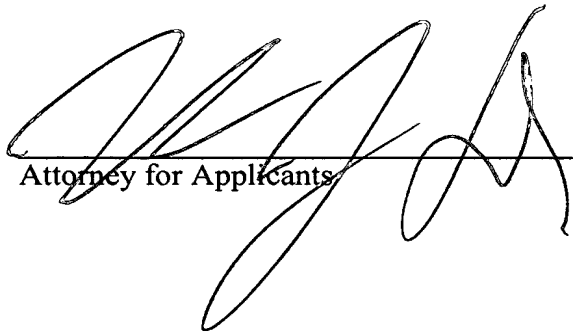

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